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CLAIMS

What is claimed is:

1. A rotary motion mechanism comprising:  
a rotatable element geometrically lockable at two points of travel; and  
a linear motion element linked to said rotatable element, said linear motion element being adapted to move in response to a linear motion imparted thereto and to cause rotation of said rotatable element.
2. The mechanism according to claim 1 wherein said points of travel comprise limits of travel.
3. The mechanism according to claim 1 or claim 2 wherein said two points of travel are defined by structure formed in said rotatable element.
4. The mechanism according to claim 3 wherein said structure comprises a plurality of grooves adapted for receiving therein a portion of said linear motion element, wherein one of said grooves defines a first point of travel of said rotatable element when said portion of said linear motion element is received therein, and another of said grooves defines a second point of travel of said rotatable element when said portion of said linear motion element is received therein.
5. The mechanism according to claim 4 wherein said rotatable element is rotatable about a pivot and at least two of said grooves are offset from said pivot.
6. The mechanism according to claim 4 or claim 5 wherein said linear motion element is adapted to cause said rotatable element to rotate when said portion of said linear motion element is not positioned in said grooves that define the points of travel.
7. The mechanism according to claim 4 or claim 5 wherein said plurality of grooves comprises a groove that is not one of said grooves that define the points of travel.
8. The mechanism according to claim 7 wherein said linear motion element is adapted to cause said rotatable element to rotate when said portion of said linear motion element is positioned in the groove that is not one of said grooves that define the points of travel.
9. The mechanism according to claim 7 or claim 8 wherein said grooves comprise at least three grooves formed generally in a clover shape in said rotatable element.
10. The mechanism according to any of the preceding claims wherein said rotatable element comprises a hook.
11. The mechanism according to any of the preceding claims wherein said linear motion element comprises a link arm coupled with said rotatable element.

12. The mechanism according to claim 11 wherein said link arm comprises a first pin at one end thereof that engages a slot formed in said linear motion element, and a second pin at a second end thereof receivable in any of said grooves formed in said rotatable element.
13. The mechanism according to claim 12 wherein said first pin is constrained to travel in a first channel, and said second pin is constrained to travel in a second channel.
14. A mechanical system comprising:
- a rotatable element geometrically lockable at two points of travel;
  - a linear motion element linked to said rotatable element, said linear motion element being adapted to move in response to a linear motion imparted thereto and to cause rotation of said rotatable element; and
  - a linkage apparatus adapted to move said linear motion element in said linear motion.
15. The system according to claim 14 and further comprising an element actuatable by rotation of said rotatable element.
16. The system according to claim 14 or claim 15 wherein said system comprises a portion of a door lock system.